



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,312	01/10/2002	Nobuyuki Okuda	50395-109	2216

20277 7590 11/02/2004

MCDERMOTT WILL & EMERY LLP
600 13TH STREET, N.W.
WASHINGTON, DC 20005-3096

EXAMINER

MERCADO, JULIAN A

ART UNIT PAPER NUMBER

1745

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,312

Applicant(s)

OKUDA ET AL.

Examiner

Julian Mercado

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed July 27, 2004.

Claims 1, 3 and 7 are pending.

Claim Objections

The objection to claim 4 is deemed moot in view of the cancellation of this claim.

Claim Rejections - 35 USC § 112

The rejection of claims 1 and 3 under 35 U.S.C. 112, second paragraph has been obviated.

However, claim 7 at line 4 still recites the term "hard", i.e. "conducting hard carbon film". Thus, claim 7 is maintained rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 102 and 103

The rejection of claim 1 under 35 U.S.C. 102(b) based on Japanese Patent 10-308226 has been withdrawn.

The rejection of claim 1 under 35 U.S.C. 102(a) based on Japanese Patent 2000-67881 has been withdrawn.

Art Unit: 1745

The rejection of claims 1 and 7 under 35 U.S.C. 102(a) based on Nishida et al. has been withdrawn.

The rejection of claims 1 and 3 under 35 U.S.C. 102(e) based on Yoshimura et al. (U.S. Pat. 6,291,094 B1) has been withdrawn in favor of the new ground of rejection set forth below.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

((e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoshimura et al. (U.S. Pat. 6,291,094 B1)

The examiner notes that independent claim 1 has been amended to incorporate the features of claim 2 (now canceled) as well as the features of claim 4 (now canceled). To this extent, Yoshimura et al. is maintained to teach an intermediate layer such as titanium nitride interposed between the separator substrate and the conducting carbon film. See Figure 4 which shows a separator comprised of a substrate [65], intermediate layer [62] and carbon film [64].

Art Unit: 1745

Regarding a hardness of not less than 8 GPa, the examiner maintains that the electrically conducting film in Yoshimura et al. would naturally flow to inherently have the same measurable hardness as claimed, absent of a showing by applicant that the claimed invention distinguishes over the reference. *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990) To this extent, the examiner notes that claim 1 calls for an “electrically conducting carbon film”, which Yoshimura et al. teaches. Yoshimura et al. is maintained to teach or at least suggest the invention as presently amended for the reasons discussed in the prior Office action with respect to claims 2 and 4 to the extent that claim 1 now incorporates the subject matter previously recited by these claims.

Applicant's arguments have been fully considered, however they are not found persuasive.

Applicant submits that Yoshimura et al. teaches a plethora of materials and that this material “appears to be preferably tin”. In reply, the examiner asserts that Yoshimura et al. in fact discloses other preferred materials such as titanium nitride, *inter alia*, which reads on the claimed metal nitride, as follows:

The first coating layer 62 does not need to be formed from a stainless steel, but may also be formed from a different metal that retains electric conductivity if oxidized, for example, nickel, nickel alloy such as Ni--P alloy, Ni--B alloy, Ni--Sn alloy or Ni--Fe alloy, titanium or a ceramic that has electric conductivity. Examples of electrically conductive ceramics include nitrides such as titanium nitride, chrome nitride and the like, and oxides such as tin oxide, tungsten oxide, indium oxide, indium-tin oxide (ITO) and the like. The material of the first coating layer 62 needs merely to be a material which has sufficiently high electric conductivity and which does not form a passive state film or an oxide film having no substantial electric conductivity prior to the formation of the second coating layer 64. (col. 8 line 46-59)

Yoshimura et al. actually does not have any specific preference for tin, but instead discloses equivalent metals which all have the desired characteristic of electric conductivity even when passivated.

Art Unit: 1745

The examiner notes that on page 10 of applicant's response, applicant points out that the examiner did not identify where in Yoshimura et al. the hardness of layer 62 was a result-effective variable. It appears to the examiner that applicant has misread the prior Office action. The examiner points out that the prior Office action did not rely on *In re Boesch* for a result-effective variable determination of the claimed hardness, instead, the section 103(a) rejection for claim 4 was an *In re Best* and *In re Spada* analysis for inherency.

Allowable Subject Matter

Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest at least one element of the substrate or intermediate layer being included in the conducting carbon film. The examiner notes applicant's disclosure on page 6 line 9-14, wherein this embodiment results in a carbon film with high adherence and which does not readily flake off.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 1745

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jam


Patrick Ryan
SPE - AV1745